

****ATTENTION****

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There Ain't No Such Thing As A Free Lunch: *California Sea Lions and the Lake Washington Native-Run Steelhead*

Washington Department of Wildlife



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future.

Q. What is the problem?

A. The basic problem is twofold. The Ballard locks, which are situated at the entrance to the Lake Washington system, create an artificial barrier to steelhead that are returning to spawning grounds in the Cedar and Sammamish rivers and other tributaries. Although a fish ladder allows steelhead to pass through into the watershed, the fish are still bottlenecked enough to become vulnerable to sea lions.

Secondly, the protected California sea lion population is expanding. In recent years, Puget Sound's population has grown to around 1,000 animals. Beginning in the mid 1980s, California sea lions have taken a significant share of the returning wild steelhead. Fisheries biologists believe the wild run may become seriously depleted if sea lion predation isn't curbed.

Q. How long has this been going on?

A. Officials were first alerted to the problem during the winter of 1984-85. That year, sea lions ate approximately 1,500 of the 2,530 wild steelhead that were expected back to spawn. A minimum of 1,600 fish is required to meet the escapement goals of the system. "Escapement" is the number of fish returning to spawn. Escapement goals are based on how many fish must spawn in order to perpetuate the run at a size the available habitat can support.

Q. Why is the problem only with steelhead and not salmon?

A. Both timing and numbers provide the answers to this question. California sea lions arrive in Puget Sound in mid November - the same time steelhead are returning. Over the past four years, the problem sea lions have been

changing their migration patterns to arrive earlier and stay later into the spring and early summer. Most salmon stocks arrive during a time of year when sea lions aren't in the area.

In addition to the timing factor, salmon return in much larger numbers than native steelhead. The Lake Washington wild steelhead run - the most urban run in the world - is relatively small. Under good conditions the wild run is comprised of 2,500-3,000 fish. Because of sea lion predation, the wild run is expected to be down to around 1,600 fish this year.

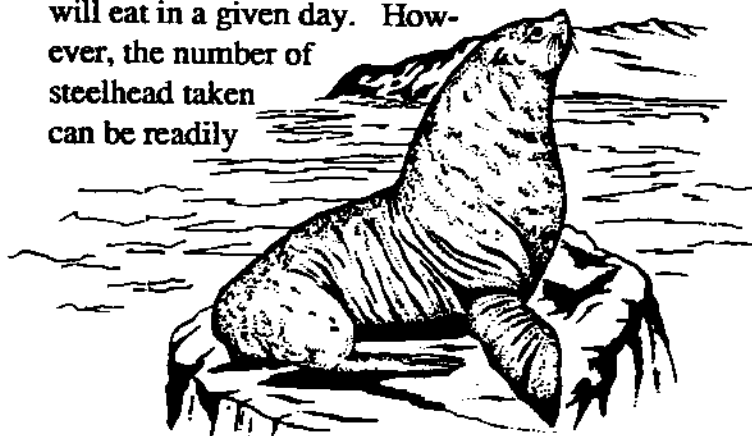
Q. How many sea lions are causing the problem?

A. In 1984-85, one or two sea lions hung around the locks preying on fish. Numbers have increased dramatically since then and today at least 20 sea lions are taking steelhead at the locks. Those animals represent only a small portion of the total California sea lion population.

An estimated 170,000 California sea lions range the Pacific coast between Mexico and British Columbia. That population is growing at a rate of five to ten percent per year.

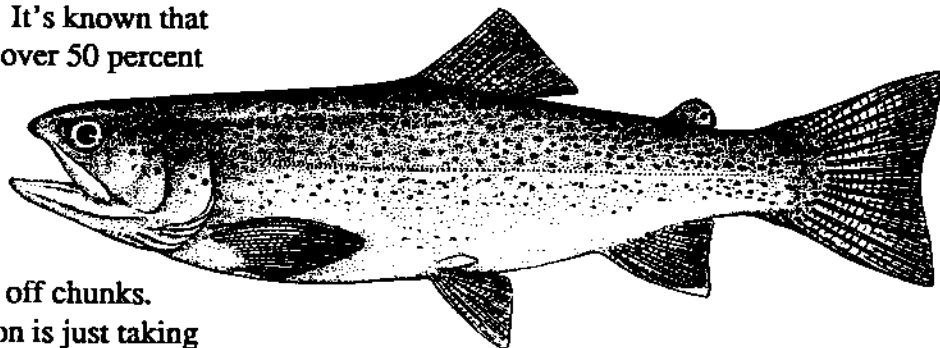
Q. How much can a sea lion eat in a day?

A. The sea lions are all males weighing between 300 and 800 pounds. They eat approximately 5 percent of their body weight each day. This can translate into 15 to 40 pounds of fish a day per sea lion. Because of the varying availability of steelhead and individual sea lion feeding rates, it's difficult to say how many fish a sea lion will eat in a given day. However, the number of steelhead taken can be readily



observed and reliably estimated. It's known that last year the sea lions consumed over 50 percent of the entire steelhead run in Lake Washington.

Contrary to popular belief, sea lions usually eat the whole fish. They eat by taking the fish in their teeth and tearing off chunks. While it may look like the sea lion is just taking bites, they typically retrieve and consume the entire fish.



Q. Who is officially involved in the problem?

A. Two federal agencies, one state agency and two tribes have official roles. The Army Corps of Engineers is involved because the Ballard locks is their facility. The National Marine Fisheries Service is the other federal agency taking part. NMFS administers the Marine Mammal Protection Act, which protects California sea lions. The Washington Department of Wildlife, mandated to preserve, protect and perpetuate the state's wildlife, is responsible for managing wild and hatchery steelhead runs.

Two Indian tribes, the Muckleshoots and the Suquamish, are involved through their tribal right to harvest a percentage of the Lake Washington steelhead.

Q. What has been tried so far to control the sea lions?

A. Concerted efforts to resolve the problem began in 1985-86. Only non-lethal control measures are allowed by the federal Marine Mammal Protection Act. To date, those measures have included harassment with underwater firecrackers and various noisemakers, chaser boats, taste aversion conditioning, capture attempts and a barrier net. None of these methods have worked to fully control sea lion predation. Unless some method can be developed to reliably decrease predation levels, the Lake Washington run will continue to decline and may ultimately disappear.

Q. Why can't the sea lions be shot?

A. As mentioned above, sea lions are pro-

ected by the Marine Mammal Protection Act of 1972. The MMPA was reauthorized in 1988 and still doesn't allow state or federal agencies to kill marine mammals. The only alternatives available to the agencies are harassment and non-lethal removal.

Q. Why was the Lake Washington system closed to steelheading for the 1988-89 winter season?

A. Wild fish returning to the Lake Washington system this season are offspring of the 1984-85 run - the run with the lowest escapement ever recorded. Instead of the 1,600 fish needed to meet minimum escapement goals, only 460 fish managed to slip past the sea lions and sport and tribal fisheries. From the spawning effort of those 460 fish, only 1,655 fish are expected to return this season.

In order to protect every one of the returning wild fish, the Muckleshoots, Suquamish and the Department of Wildlife agreed that no steelhead fishing at all would take place in the Lake Washington system this winter season.

Q. How does the future look?

A. Most non-lethal methods of controlling sea lion predation have been tried without much success. Additional non-lethal alternatives will be explored this year in the continuing search for a workable solution but officials are not optimistic. Unless the U.S. Congress gives the Marine Mammal Protection Act more flexibility, the responsible agencies are at their legal limits in resolving this problem.

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